

CLAIMS

1. Equipment for moving the roll of a paper machine, which roll (10) is arranged to be moved in an axial direction, and
5 which equipment includes
- a cradle (13) arranged to move, which is intended to be attached to the roll (10),
 - two pairs of masses (16, 17), which are supported rotatably on the cradle (13),
 - 10 - a drive shaft (18) in each of the pairs of masses (16, 17), for rotating the pairs of masses (16, 17),
 - drive devices (19) for rotating the drive shafts (18) in the desired phase, which drive devices (19) include a motor (21) and drive-train means (22) fitted to the drive shafts (18),
 - 15 - the drive-train means (22) include a pair of intermeshed gears (23), which are arranged in connection with the drive shafts (18), in order to rotate the drive shafts (18) using a single motor (21), and
 - the drive-train means (22) include an adjustment element (33)
 - 20 for creating and adjusting the phase difference of the drive shafts (18),
- characterized in that the adjustment element (33) is arranged between a gear (25) belonging to the pair of gears (23) and the corresponding drive shaft (18), in order to change their mutual
25 position and thus to create and adjust a phase difference between the drive shafts (18).
2. Equipment according to Claim 1, characterized in that the drive-train means (22) include auxiliary shafts (26, 27), which
30 are arranged as continuations of the drive shafts (18) and in connection with which the pair of gears (23) are arranged to rotate the drive shafts (18) using a single motor (21).
3. Equipment according to Claim 1 or 2, characterized in
35 that the motor (21) is an electric motor, which is connected directly as a continuation of the second drive shaft (18).

4. Equipment according to Claim 2, characterized in that the gear (25) belonging to the pair of gears (23) is arranged on the auxiliary shafts (27), between which the adjustment element (33) is arranged in order to alter their mutual position and
5 thus to adjust the phase difference between the drive shafts (18).

5. Equipment according to any of Claims 1 - 4, characterized in that the drive-train means (22) include a drive device (39)
10 for driving the adjustment element (33), which drive device (39) is arranged to be self-returning.

6. Equipment according to any of Claims 1 - 5, characterized in that the adjustment element (33) is a sleeve (34), which is
15 arranged to be moved axially, relative to both the drive shaft (18) or the auxiliary shaft (27) and the gear (25).

7. Equipment according to Claim 6, characterized in that, on both the inner surface and the outer surface of the sleeve
20 (34), there is a shape-locking construction, for transferring the moment from the gear (25), through the sleeve (34), to the drive shaft (18), or to the auxiliary shaft (27).

8. Equipment according to Claim 7, characterized in that
25 both shape-locking constructions include two counter-surfaces and on the first counter-surface of the shape-locking construction there is spiral grooving (36) and on the second counter-surface corresponding to it a protrusion (37) is arranged according to the spiral grooving.

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9. Equipment according to Claim 6 or 7, characterized in that, on the outer surface of the sleeve (34), there is straight grooving (35), straight grooving corresponding to which is arranged in the gear (25).

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10. Equipment according to Claim 6 or 7, characterized in that on the inner surface of the sleeve (34) there is spiral

grooving (36), for each individual spiral groove (36') belonging to which there is a protrusion (37) arranged in the drive shaft (18) or the auxiliary shaft (27).

- 5 11. Equipment according to Claim 10, characterized in that there are two opposing spiral grooves (36') in the sleeve (34), the protrusions (37) corresponding to which are arranged as a key (38) fitted to the drive shaft (18) or the auxiliary shaft (27).

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12. Equipment according to Claim 3, characterized in that the equipment includes a circulating lubrication system (46) including a feed pump (47), and a control system (48) connected to it, according to which the electric motor (21) is arranged
15 to act as a generator for rotating the feed pump (47) in the case of a fault in the equipment.

13. Equipment according to any of Claims 2 - 12, characterized in that the pairs of gears (23) and the auxiliary shafts
20 (26, 27) are supported on a common and essentially rigid bearing stand (51).

14. Equipment according to any of Claims 5 - 13, characterized in that the adjustment element (33) is arranged as part of
25 the drive device (39), which is fitted inside the gear (25).

15. Equipment according to Claim 14, characterized in that the drive device (39) includes bearings (30) and a shaft (53), which is arranged as a continuation of the drive shaft (18).

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16. Equipment according to Claim 14 or 15, characterized in that the drive device (39) is attached to the gear (25) and it includes a pressure-medium connection (54) permitting the rotational motion, for operating the drive device (39) while
35 the gear (25) rotates.